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| EXAMINER | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/551,592 | FREZZOLINI, ALEANDRO | |
| | Examiner | Art Unit | |
| | JEREMY COSTIN | 2465 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *13 July 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3,33-35,64-66 and 85-95* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,33-35,64-66 and 85-95* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

**Claims 1-3, 33-35, 64-66, and 85-95 have been examined and are pending.**

### *Claim Objections*

Claims 1, 33, and 64 are objected to because of the following informalities: The use of and/or should be changed to either "and" or "or". Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 1-3, 33-35, 64-66, and 85-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application 4,692,761 to Robinton in view of European Patent Application EP 0852419 to Liberman and US Patent Application Publication 2003/0097482 to DeHart et al (herein referred to as Dehart) and US Patent Application Publication 2003/0103521 to Raphaeli et al. (herein referred to as Raphaeli).**

Regarding claim 1, Robinton discloses a communication method via a power line communication channel between a collecting unit **(fig. 2, 24, col. 7, lines 61-63, master unit 24)** and a plurality of control devices **(fig. 2, 26(n), col. 7, lines 61-63, remote units)**, each of which is associated with at least an electrical device **(col.6, lines 67-68, power meter)**, via a communication channel **(fig. 3, power line 32)**, wherein messages are exchanged between said collecting unit and said control devices **(Abstract, The system includes two or more remote units and a master unit, each having an associated address, which are connected to the network. The remote units are each capable of initiating a down link message sequence wherein a data package containing data, such as data relating to power consumption, is transferred from one of the remote units to the master unit.)**, each of said messages containing at least a progressive message number **(Abstract, information which indicates the number of message transmissions required to transfer a data package from the transmitting unit to the master unit)**, an addressee identification number indicating a specific one of the control devices to which the message is finally addressed **(col. 2, lines 58-65, a final destination address identifying the node associated with the data package present in the down link message received by the master unit which resulted in the responding up link message and col. 8, lines 67-68, the message will contain an Intermediate Destination Address and Intermediate Source address)**, a portion of informative content and/or executable commands **(col. 8, line67, meter data)**; wherein a specific identification number, is assigned to each control device **(col. 9, lines 1-2, i.e. each remote station has an assigned address for routing**

**purposes)**, said messages being addressable selectively to a specific control device via said addressee identification number **(col. 2, lines 58-65, a final destination address identifying the node associated with the data package present in the down link message received by the master unit which resulted in the responding up link message and fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link node address, which is the address of the master unit in this instance.)**; wherein when a control device receives a message containing an addressee identification number differing from its own identification number **(fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link node address, which is the address of the master unit in this instance.)**, after a given delay interval said control device generates and transmits on said channel at least one echo of said message **(col. 9, lines 7-9, Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.)**. He does not completely discuss at least one echo of said message that is not addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless a reply to said message was received from the control device to which said message was addressed, and wherein said control device compares said message with pre established criteria and transmits said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations of echoes of a given message, which was well known within the field of endeavor at the time of the invention.

Liberman teaches at least one echo of said message that is not addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless a reply to said message was received from the control device to which said message was addressed **(page 4, lines 1—12, 4. Node 5 receives the replies of 1 & 2, storing the last replying node. Nodes 6, 7 receive the reply of 3.)**. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the steps discussed by Liberman into that disclosed by Robinton as an improved or alternative discovery process implemented within a PLC network **(Liberman, page 2, lines 5-6, he invention relates to automatic mapping and routing optimization of a communication between a Central Unit and Remote Nodes under hard and changing communication conditions.)**.

DeHart describes said control device generates and transmits on said channel at least one echo of said message unless a reply to said message was received from the control device to which said message was addressed **(para [0022], Each attached remote device will attempt to answer. As each device answers, the remote checks for a response from other device on the two-wire interface. If it detects a response from another device, it will not respond or break off response to the command.)**, which would have been obvious to implement into the communication system disclosed by Robinton as a discovery process for each node connected within the network **(DeHart, para [0022], This capability is uniquely used to automatically determine the components and functions currently connected to the network.)**.

Raphaeli discusses wherein said control device compares said message with pre established criteria and transmits said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations of echoes of a given message **(para [0256], A flow diagram illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_ Retries times.)**, which would have been obvious to one of ordinary skill to implement as a method to prevent unlimited echoes of a given message as well as a method detect a failure within the network **(Raphaeli, para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).)**.

Regarding claim 2, Robinton in view of Liberman and DeHart and Raphaeli teaches the method as claimed in claim 1, wherein the control device that generated an echo of the message received and addressed to a different control device **(Robinton, col. 8, lines 22-26, It can be seen that the data package transmitted in the message by remote unit 26b must be stored and forwarded by four intermediate remote units 26c,26d,26e and 26f, respectively, in order to reach the master unit.)**, temporarily stores identifying information of said message and does not generate subsequent

echoes of said message while the identifying information remains stored **(Robinton, col. 8, lines 63-67 and col. 9, lines 1-9, Assuming that remote unit 26c has transmitted a message containing a data package originated by the remote unit, the message will be directed to remote unit 26d, since that remote unit is presently preferred. In addition to the meter data, the message will contain an Intermediate Destination Address, which is the address of remote unit 26d and an Intermediate Source Address, which is the address of unit 26c. An additional address will be included indicating that unit 26c is the source of the data package in the message. The message will further contain information indicating that the message is a down link message, therefore, the master unit is the final destination. Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.)**.

Regarding claim 3, Robinton in view of Liberman and DeHart and Raphaeli teaches the method as claimed in claim 2, wherein each control device stores the identifying information of messages of which it has generated an echo in a temporary list containing identifying information of a predetermined maximum number of messages **(Robinton, col. 9, lines 51-54, Unit 26f will use the previously-stored Intermediate Source Address as the Intermediate Destination Address of the message to be transmitted. The final destination address of the received message will be used to identify the stored up link address.)**.

Regarding claim 33, Robinton teaches a system comprising a collecting unit **(col. 12, line 34, master unit)** including at least a processor **(fig. 3, CPU 36)**, a memory and a transmission and reception device **(fig. 3, 30 and 34)**, and a plurality of control devices **(fig. 2, 26(n))**, each of which comprises at least a processor, a memory, and a transmission and reception device **(see fig. 3,)** and is interfaced with at least an electrical device **(col. 12, lines 63-65, from external sources such as electronic power meter 46)**, said collecting unit and said control devices being connected to one another via a power line communication channel **(fig. 3, power line 32)**, wherein the collecting unit and the control devices are programmed to exchange messages between said collecting unit and said control devices, each of which contains at least a progressive message number **(Abstract, information which indicates the number of message transmissions required to transfer a data package from the transmitting unit to the master unit)**, an addressee identification number indicating a specific one of the control devices to which the message is finally addressed **(col. 2, lines 58-65, a final destination address identifying the node associated with the data package present in the down link message received by the master unit which resulted in the responding up link message and col. 8, lines 67-68, the message will contain an Intermediate Destination Address and Intermediate Source address)**, a portion of information content and/or executable commands **(col. 8, line67, meter data)**; wherein each control device is assigned its own identification number **(col. 9, lines 1-2, i.e. each remote station has an assigned address for routing purposes)**, said messages being addressable selectively to a specific control device via said addressee

identification number **(col. 2, lines 58-65, a final destination address identifying the node associated with the data package present in the down link message received by the master unit which resulted in the responding up link message and fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link node address, which is the address of the master unit in this instance.)**; and wherein when a control device (7X) receives a message containing an addressee identification number differing from its own identification number **(fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link node address, which is the address of the master unit in this instance.)**, after a given delay, interval said control device generates and transmits on said channel at least one echo of said message **(col. 9, lines 7-9, Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.)**. He does not completely discuss at least one echo of said message that is not addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless a reply to said message has already been received from the control device to which said message was addressed, and wherein said control device compares said message with pre-established criteria and transmits said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations-of echoes of a given message, which was well known within the field of endeavor at the time of the invention.

Liberman teaches discuss at least one echo of said message that is not addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless a reply to said message has already been received from the control device **(page 4, lines 1—12, 4. Node 5 receives the replies of 1 & 2, storing the last replying node. Nodes 6, 7 receive the reply of 3.)**. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the steps discussed by Liberman into that disclosed by Robinton as an improved or alternative discovery process implemented within a PLC network **(Liberman, page 2, lines 5-6, he invention relates to automatic mapping and routing optimization of a communication between a Central Unit and Remote Nodes under hard and changing communication conditions.)**.

DeHart describes said control device generates and transmits on said channel at least one echo of said message unless a reply to said message has already been received from the control device to which said message was addressed **(para [0022], Each attached remote device will attempt to answer. As each device answers, the remote checks for a response from other device on the two-wire interface. If it detects a response from another device, it will not respond or break off response to the command.)**, which would have been obvious to implement into the communication system disclosed by Robinton as a discovery process for each node connected within the network **(DeHart, para [0022], This capability is uniquely used to automatically determine the components and functions currently connected to the network.)**.

Raphaeli teaches wherein said control device compares said message with pre-established criteria and transmits said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations-of echoes of a given message **(para [0256], A flow diagram illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_ Retries times.)**, which would have been obvious to one of ordinary skill to implement as a method to prevent unlimited echoes of a given message as well as a method detect a failure within the network **(Raphaeli, para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).)**.

Regarding claim 34, Robinton in view of Liberman and DeHart and Raphaeli teaches a system as claimed in claim 33, wherein the control device that generated an echo of the message received and addressed to a different control device **(Robinton, col. 8, lines 22-26, It can be seen that the data package transmitted in the message by remote unit 26b must be stored and forwarded by four intermediate remote units 26c,26d,26e and 26f, respectively, in order to reach the master unit.)** is programmed to temporarily store identifying information of said message and does not

generate subsequent echoes of said message while the identifying information remains stored **(Robinton, col. 8, lines 63-67 and col. 9, lines 1-9, Assuming that remote unit 26c has transmitted a message containing a data package originated by the remote unit, the message will be directed to remote unit 26d, since that remote unit is presently preferred. In addition to the meter data, the message will contain an Intermediate Destination Address, which is the address of remote unit 26d and an Intermediate Source Address, which is the address of unit 26c. An additional address will be included indicating that unit 26c is the source of the data package in the message. The message will further contain information indicating that the message is a down link message, therefore, the master unit is the final destination. Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.)**.

Regarding claim 35, Robinton in view of Liberman and DeHart and Raphaeli teaches a system as claimed in claim 34, wherein each control device comprises a memory, and is programmed to store the identifying information of messages it has generated an echo of in a temporary list containing identifying information of a predetermined maximum number of messages **(Robinton, col. 9, lines 51-54, Unit 26f will use the previously-stored Intermediate Source Address as the Intermediate Destination Address of the message to be transmitted. The final destination address of the received message will be used to identify the stored up link address.)**.

Regarding claim 64, Robinton teaches a control device **(col. 12, line 34, remote unit)** for electrical devices comprising at least a processor **(fig. 3, CPU 36)**, a memory (11), a connection to a corresponding electrical device, and a device for transmission and reception **(see fig. 3, 30 and 34)** on a power line communication channel **(fig. 3, power line 32)** for the reception and the transmission of information and/or commands **(col. 8, line 67, meter data)**, to which an identification number is assigned, said control device being programmed to receive and transmit messages via said communication channel, each of which contains at least: a progressive message number **(Abstract, information which indicates the number of message transmissions required to transfer a data package from the transmitting unit to the master unit)**, an addressee identification number indicating a specific one of the control devices to which the message is finally addressed **(col. 2, lines 58-65, a final destination address identifying the node associated with the data package present in the down link message received by the master unit which resulted in the responding up link message and col. 8, lines 67-68, the message will contain an Intermediate Destination Address and Intermediate Source address)**, a portion of informative content and/or executable commands **(col. 8, line67, meter data)**; and is programmed so that when it receives a message containing an addressee identification number differing from its own identification number **(fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link node address, which is the address of the master unit in this instance.)**, from said channel via its own transmission and reception device, it transmits at least an echo of

the message received on said channel after a given delay interval **(col. 9, lines 7-9, Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.)**, unless it receives on said channel a reply to said message, a routine being provided to prevent unlimited generations of echoes of a given message **(col. 9, lines 33-36, Upon receipt of the final down link message of the sequence, master unit 24 is adapted to initiate an up link message sequence which will include the transmission of one or more up link messages.)**. Robinton does not completely discuss the echo not being addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless it receives on said channel a reply to said message, said delay interval specific to said control device so as to prevent overlapping of messages on said communication channel, and said control device programmed to compare said message with pre-established criteria and transmit said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations of echoes of a given message, which was well known within the field of endeavor at the time of the invention.

Liberman teaches the echo not being addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless it receives on said channel a reply to said message **(page 4, lines 1—12, 4. Node 5 receives the replies of 1 & 2, storing the last replying node. Nodes 6, 7 receive the reply of 3.)**. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the steps discussed by Liberman into that disclosed by

Robinton as an improved or alternative discovery process implemented within a PLC network **(Liberman, page 2, lines 5-6, he invention relates to automatic mapping and routing optimization of a communication between a Central Unit and Remote Nodes under hard and changing communication conditions.)**.

DeHart describes said delay interval specific to said control device so as to prevent overlapping of messages on said communication channel **(para [0022], Collision detection means for detecting multiple responses on the two-wire buss with each function backing off tee function's communication attempt until only one function continues to communicate, thus guaranteeing a response.)**, which would have been obvious to one of ordinary skill in the art to implement into the disclosure of Robinton to improve the ability of the network to avoid data corruption associated with collisions on the network.

Raphaeli teaches and said control device programmed to compare said message with pre-established criteria and transmit said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations of echoes of a given message **(para [0256], A flow diagram illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_ Retries times.)**, which would have been obvious to one of ordinary skill to implement as a method to prevent unlimited echoes of

a given message as well as a method detect a failure within the network **(Raphaeli, para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).)**.

Regarding claim 65, Robinton in view of Liberman and DeHart and Raphaeli teaches a control device as claimed in claim 64, programmed to temporarily store identifying information of each message of which it generates an echo **(Robinton, col. 8, lines 22-26, It can be seen that the data package transmitted in the message by remote unit 26b must be stored and forwarded by four intermediate remote units 26c,26d,26e and 26f, respectively, in order to reach the master unit.)** and not to generate subsequent echoes of said message while the identifying information remains stored **(Robinton, col. 8, lines 63-67 and col. 9, lines 1-9, Assuming that remote unit 26c has transmitted a message containing a data package originated by the remote unit, the message will be directed to remote unit 26d, since that remote unit is presently preferred. In addition to the meter data, the message will contain an Intermediate Destination Address, which is the address of remote unit 26d and an Intermediate Source Address, which is the address of unit 26c. An additional address will be included indicating that unit 26c is the source of the data package in the message. The message will further contain information indicating that the message is a down link message, therefore, the master unit is the final destination. Accordingly, unit 26d will determine that the meter data are to be**

**stored and forwarded in the down link direction.)**.

Regarding claim 66, Robinton in view of Liberman and DeHart and Raphaeli teaches a control device as claimed in claim 65, programmed to store the identifying information of messages of which it generated an echo in a temporary list of identifying information relative to a maximum number of said messages **(Robinton, col. 9, lines 51-54, Unit 26f will use the previously-stored Intermediate Source Address as the Intermediate Destination Address of the message to be transmitted. The final destination address of the received message will be used to identify the stored up link address.)**.

Regarding claim 85, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 1, each of said messages further containing a counter, and wherein a control device receiving a message containing an addressee identification number differing from its own identification number compares a value associated with said counter to a pre-established value and transmits said message when said value is above said pre-established value **(Raphaeli, fig. 23 steps 244 and 246, para [0256], illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_ Retries times.)**.

Regarding claim 86, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 85, wherein said control device receiving a message containing an addressee identification number differing from its own identification number decreases said value of said counter prior to transmitting said echo of said message **(Raphaeli, fig. 23 steps 244 and 246, para [0256], illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_ Retries times.)**.

Regarding claim 87, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 86, wherein an initial value of said counter is equal to a total number of said plurality of control devices **(Raphaeli, para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260). The max number of retries is set within the system.)**.

Regarding claim 88, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 1, wherein each control device transmits said echo of the message received with its own specific delay **(Robinton, col. 21, lines 56-60, As**

**previously noted, network message collisions are reduced by causing selected remote units to temporarily refrain from transmitting. Many of the message types will indicate that such a transmit hold delay is required for certain units receiving the message.)**.

Regarding claim 89, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 88, wherein the delay with which each control device transmits the echo of the message received is determined as a function of the identification number assigned to said control device **(Robinton, col. 21, lines 15-27, variable transmit hold delay = HC (hop count) * message times. This assumes the identification number assigned is the hop count.)**.

Regarding claim 90, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 89, wherein said delay is equal to the duration of the message multiplied by the identification number of the respective control device that transmits the echo **(Robinton, col. 21, lines 15-27, variable transmit hold delay = HC (hop count) * message times. This assumes the identification number assigned is the hop count. And col. 21, lines 62-66, whether a transmit hold delay is required, and, if so, the duration of the delay. As set forth in Table 4, certain message types call for a fixed hold delay of one, two, three or four message times, with a message time in the present embodiment being approximately 1.3 seconds.)**.

Regarding claim 91, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 90, wherein said collector unit emits messages addressed to specific control devices with a temporal interval above a maximum delay with which a previous message can be regenerated via echo by all of said plurality of control devices **(Robinton, col. 12, lines 16-23, The initiating message will typically include transmit hold delay information to be acted upon by other remote units. If unit 26i receives the message, the unit will refrain from transmitting on the network for a period of time which is sufficiently long so as to permit the expected reply message to be received by originating unit 26b.)**.

Regarding claim 92, Robinton in view of Liberman and DeHart and Raphaeli teaches a system as claimed in claim 33, wherein each of said messages further contains a counter, and wherein each control device is programmed upon receiving a message containing an addressee identification number differing from its own identification to compare a value associated with said counter to a pre-established value, decrease said value of said counter when said counter value is above said pre-established value and subsequently transmit said message **(Raphaeli, fig. 23 steps 244 and 246, para [0256], illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation**

**frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_ Retries times. And para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).)**.

Regarding claim 93, Robinton in view of Liberman and DeHart and Raphaeli teaches a system as claimed in claim 33, wherein each of said plurality of control devices is programmed to transmit said echo of the message received with its own specific delay determined as a function of the identification number assigned to said control device **(Robinton, col. 21, lines 15-27, variable transmit hold delay = HC (hop count) * message times. This assumes the identification number assigned is the hop count. And col. 21, lines 62-66, whether a transmit hold delay is required, and, if so, the duration of the delay. As set forth in Table 4, certain message types call for a fixed hold delay of one, two, three or four message times, with a message time in the present embodiment being approximately 1.3 seconds.)**, and wherein said collector unit is programmed to emit messages addressed to specific control devices with a temporal interval above a maximum delay with which a previous message can be regenerated via echo by all of said plurality of control devices **(Robinton, col. 12, lines 16-23, The initiating message will typically include transmit hold delay information to be acted upon by other remote units. If unit 26i receives the message, the unit will refrain from transmitting on the network for a**

**period of time which is sufficiently long so as to permit the expected reply message to be received by originating unit 26b.)**.

Regarding claim 94, Robinton in view of Liberman and DeHart and Raphaeli teaches a control device as claimed in claim 64, each of said messages further containing a counter, and wherein said control device is programmed upon receiving a message containing an addressee identification number differing from its own identification to compare a value associated with said counter to a pre-established value, decrease said value of said counter when said counter value is above said pre established value and subsequently transmit said message **(Raphaeli, fig. 23 steps 244 and 246, para [0256], illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_ Retries times. And para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).)**.

Regarding claim 95, Robinton in view of Liberman and DeHart and Raphaeli teaches a control device as claimed in claim 64, wherein said control device is programmed to transmit said echo of the message received with its own specific delay determined by

multiplying said identification number associated with said control device by a duration of the message **(Robinton, col. 21, lines 15-27, variable transmit hold delay = HC (hop count) * message times. This assumes the identification number assigned is the hop count. And col. 21, lines 62-66, whether a transmit hold delay is required, and, if so, the duration of the delay. As set forth in Table 4, certain message types call for a fixed hold delay of one, two, three or four message times, with a message time in the present embodiment being approximately 1.3 seconds.)**.

### *Response to Arguments*

Applicant's arguments with respect to claims 1-3, 33-35, 64-66, and 85-95 have been considered but are moot in view of the new ground(s) of rejection.

However, identical references have been used in the above rejection, and therefore in an effort for compact prosecution, all applicable arguments will be addressed.

The Applicant has argued, on pages 14-16, that Robinton does not teach the limitation “each message contains a progressive message number.” However, the specification does not specifically disclose a particular definition for this term, and therefore the term has been given a broadest reasonable interpretation in light of the specification. One of ordinary skill in the art would easily construe “a progressive message number” as a sequence number which increments or a number of times which a single message is progressively transmitted. If the Applicant would like a more

explicit definition, the claim should be amended to reflect this desire. Appropriate clarification within the claim is required.

The Applicant has additionally argued, on pages 16-18 that Robinton does not teach "an addressee identification number indicating a specific one of the control devices to which the message is finally addressed." The Examiner respectfully disagrees. The Examiner has cited a new part of the reference to Robinton which specifically teaches this. The Applicant has given further rationale as to why this limitation is not taught by Robinton, however, the Examiner needs to point out that while the arguments based on that which is present in the specification are correct in that the specification supports this information; the claim is not necessary limited to this interpretation. The claims are to be given the broadest reasonable interpretation in light of the specification without reading limitations from the specification into the claims.

The Applicant further argues that Liberman does not teach "generating an echo (i.e. replica, copy)." The Examiner respectfully disagrees. The messages sent from the central unit to the outer most nodes are each an echo of what the node had received. A node receives a message from preceding node and echoes this message to the next level of nodes. The word replica or copy is never used in the specification and is not used in the claim. Therefore the argument is moot.

In response to applicant's argument that "The very idea of Robinton and also of Liberman is that the node generating a response message will not simply copy and re-transmit the message. Rather, the methods will introduce in the replying message a piece of information which serves (in both cases) for routing purposes. Routing is not

the purpose of the present invention and is not provided by the method of the invention. Thus, even combining Robinton and Liberman, those of skill in the art would not have obtained the claimed invention." the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Lastly the Applicant argues that Liberman teaches away from the claimed "echo is not addressed to a specific intermediate control device…" The Examiner would like to apologize for any confusing, as it seems the Examiner himself has been misinterpreted. The echo taught by Liberman is the message sent out from a RN to the next level of remote nodes. This message is sent out and discovered by unknown remote nodes and this is the echo message which is used to meet the limitation of the claim as currently recited. This message is different from the argued burst log-on messages which are also sent to the CU as is taught by the reference to Liberman. Thus the argument has respectfully been traversed.

Claims 2, 3, and 85-91 are therefore rejected for at least being dependent on independent claim 1.

The identical argument is made regarding claim 33. Thus claim 33 also stands rejected, as well as respective dependent claims 34, 35, 92, and 93.

A substantially identical argument is made regarding claim 64. Thus claim 64 also stands rejected, as well as respective dependent claims 65, 66, 94, and 95.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent Application Publication 2001/0024441 to Bateman et al. discloses a method for receiving power and data on the same physical link.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMY COSTIN whose telephone number is (571)270-3873. The examiner can normally be reached on m-f, 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Banks-Harold Marsha can be reached on 571-272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEREMY COSTIN/
Examiner, Art Unit 2465

/Alpus H. Hsu/
Primary Examiner, Art Unit 2465